Express Mailing# EV220476443US

LEVERAGE HANDLE

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a hand tool, and more particularly to a leverage increasing hand tool for a vice.

[0002] Vices are long known for holding work pieces during shaping, cutting, finishing, and the like. Other vice jaws are incorporated into machine tools to receive a workpiece. The vice typically utilizes an extended handle, which is rotated to close the vice and retain the workpiece. Oftentimes, it is difficult to manually achieve significant leverage on the vice handle to exert the desired vice jaw force. Machinists and others have often utilized a section of pipe to increase the leverage on the vice handle. This may be relatively difficult when the vice handle includes a knobbed end. Furthermore, the section of pipe may readily disengage from the vice handle.

[0003] Accordingly, it is desirable to provide a hand tool which increases the leverage that is exerted upon a vice handle in an efficient and safe manner.

SUMMARY OF THE INVENTION

[0004] The leverage handle tool according to the present invention provides a handle and a seat block. The seat block defines a frusto-conical slot along a slot axis parallel and offset from a handle axis.

[0005] In use, the slot is located upon a handle such as a vice handle, and the tool is pulled toward the handle end. As the tool is pulled toward the handle end, the slot grips the handle due to the frusto-conical configuration thereof. The tool may then be acted upon such that the tool increase the leverage upon the vice handle.

[0006] The present invention therefore provides a hand tool which increases the leverage exerted upon a vice handle in an efficient and safe manner.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The various features and advantages of this invention will become apparent to those skilled in the art from the following detailed description of the currently preferred

embodiment. The drawings that accompany the detailed description can be briefly described as follows:

[0008] Figure 1 is a general perspective view of a hand tool;

[0009] Figure 2 is a general perspective view of a hand tool;

[0010] Figure 3 is a general perspective view of a hand tool;

[0011] Figure 4 is a general perspective view of a hand tool; and

[0012] Figure 5 is a general perspective view of a hand tool mounted to a vice handle for use.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0013] Figure 1 illustrates a general perspective view of a leverage handle tool 10. The tool 10 generally includes a handle 12 and a seat block 14. The seat block 14 is mounted to an end section 15 of the handle 12 through, threads, welding or the like (Figure 2).

[0014] The handle 12 defines a first axis A. The handle 12 includes an enlarged end 17 located opposite the block 14. The handle 12 may alternatively or additionally include a non-slip surface, grip or the like.

[0015] The seat block 14 preferably defines a frusto-conical slot 16 along a slot axis B (Figure 3). That is, the slot 16 defines a relatively smaller semi-circular opening 18 at a handle end 20 and a relatively larger semi-circular opening 22 at an opposite end 24 of the seat block 14 (Figure 4). The slot axis B is defined parallel and offset from axis A.

[0016] Referring to Figure 5, the tool 10 is mounted for use. Generally, the slot 16 is located upon a handle L, such as a vice handle, and the tool 10 is pulled toward the handle end E (indicated by arrow P). As the tool 10 is pulled toward the handle end E, the slot 16 grips the handle L due to the frusto-conical configuration thereof. As the axes A, B are offset, the handle 12 will clear a ball B or the like on the end of the handle L. The tool 10 may then be acted upon such that the tool 10 increases the leverage upon handle L. It should be understood that the tool 10 may be utilized on various handles, machines, vices and the like.

[0017] The foregoing description is exemplary rather than defined by the limitations within. Many modifications and variations of the present invention are possible in light of the above teachings. The preferred embodiments of this invention have been disclosed, however, one of ordinary skill in the art would recognize that certain modifications would come within the scope of this invention. It is, therefore, to be understood that within the scope of the appended

claims, the invention may be practiced otherwise than as specifically described. For that reason the following claims should be studied to determine the true scope and content of this invention.